MILITARY SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES: RECEPTACLE, SOCKET CONTACT, 184 CONTACT POSITIONS, FOR PRINTED WIRING BOARDS (.050 INCH SPACING)

This specification sheet is approved for use by Rome Air Development Center, Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the connectors described herein shall consist of this specification sheet and the latest issue of MIL-C-55302.

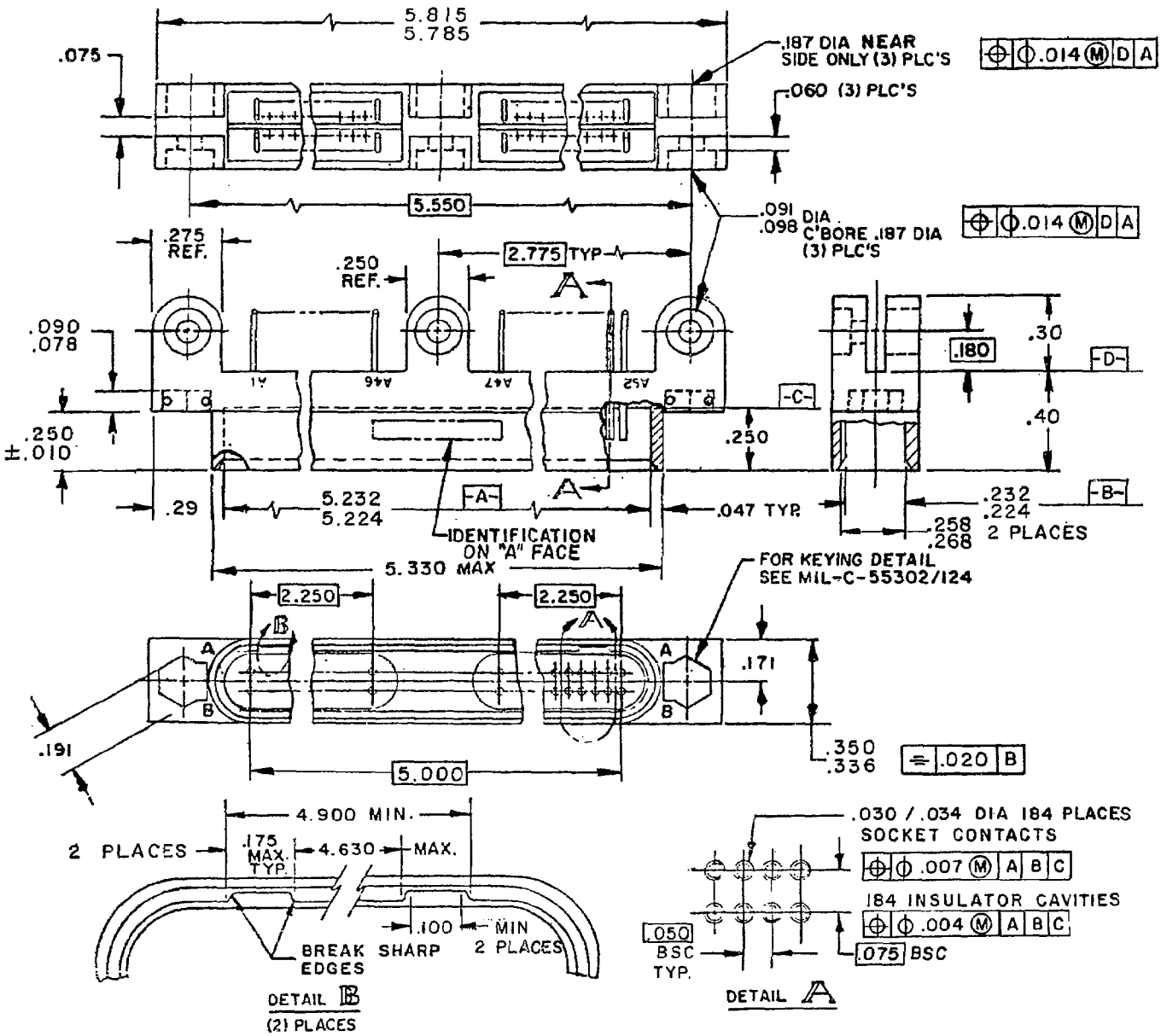
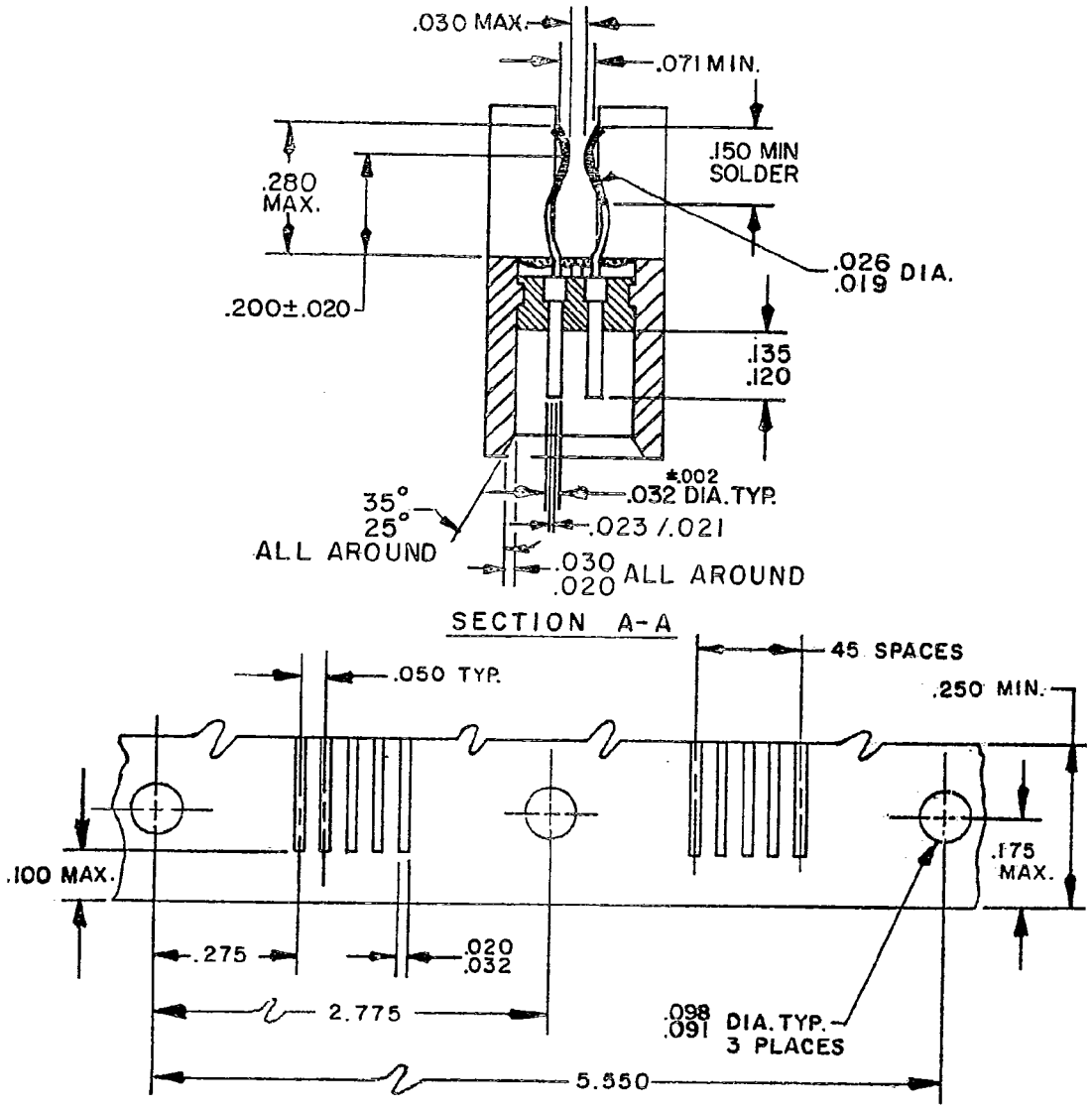


FIGURE 1. Connectors, receptacle (.050 spacing).



RECOMMENDED PRINTED CIRCUIT BOARD LAYOUT (DOUBLE SIDED BOARD)

FIGURE 1. Connectors, receptacle (.050 spacing) - Continued.

INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.002	.05	.050	1.27	.180	4.57	.350	8.89
.004	.10	.060	1.52	.187	4.75	.40	10.16
.007	.18	.071	1.80	.191	4.85	2.250	57.15
.010	.25	.075	1.91	.191	4.85	2.775	70.48
.014	.36	.078	1.98	.200	5.08	4.630	117.60
.019	.48	.090	2.29	.224	5.69	4.900	124.46
.020	.51	.091	2.31	.232	5.89	5.000	127.00
.021	.53	.098	2.49	.250	6.35	5.224	132.69
.023	.58	.100	2.54	.258	6.55	5.232	132.89
.026	.66	.120	3.05	.268	6.81	5.330	135.38
.030	.76	.135	3.43	.275	6.98	5.550	140.97
.032	.81	.150	3.81	.280	7.11	5.785	146.94
.047	1.19	.171	4.34	.29	7.37	5.815	147.70
		.175	4.45	.30	7.62		
				.336	8.53		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are ±.005 (.13 mm) for three place decimals and ±.02 (.51 mm) for two place decimals.
4. Refer to individual contact engaging and separating forces under requirements.
5. These connectors mate with connectors specified in MIL-C-55302/122.

FIGURE 1. Connectors, receptacle (.050 spacing) - Continued.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figure 1. This specification sheet describes the daughterboard or socket side of a metal shell two-piece edgeboard connector system. This system uses reverse gender contacts; i.e., the live pin is recessed in the insulator with the static socket protruding from a shrouded interface.

Material and finish:

Socket contact: Copper alloy. Gold plate per MIL-G-45204, type II, grade C, class 1. A suitable copper or gold underplate is permissible for adhesion.

Insulator: Diallyl phthalate per MIL-M-14.

Socket shell: Aluminum alloy electroless nickel per MIL-C-26074.

Keys: In accordance with MIL-C-55302/124.

Contact identification: Contact rows and end contact numbers are marked on the side of the receptacle at the end of each row. See figure 1 for further details.

Contact retention: The contact retention shall exceed 5 pounds. The test shall be conducted by pulling axially on the wire.

Oversize pin exclusion test: Not applicable to reverse gender connectors.

Mating and unmating: The maximum mating force, in pounds, shall not exceed a value equal to .6 times the number of contacts, and the unmating force, in pounds, shall be a minimum of .03 times the number of contacts and shall not exceed the measured insertion force.

Individual contact engaging and separation force: 8.0 ounces maximum engaging, 0.5 ounce minimum separation. Contact resistance not to exceed 36 millivolts at 3 amps rated current.

Low level circuit: The low level circuit resistance shall not exceed 20 milliohms.

Dielectric withstanding voltage:

Sea level: 800 volts rms, 60 hertz.

High altitude (70,000 feet): 200 volts rms, 60 hertz.

Current rating, maximum: 3 amperes per contact.

Materials inspection: In accordance with MIL-C-55302, except under group "A" inspection, delete the test for mating and unmating; add tests for dielectric withstanding voltage and insulation resistance both of which have a major AQL and no minor AQL. Under group "B" inspection delete the test for insulation resistance; add tests for contact separation and mating and unmating.

Sampling plan: Group "B" statistical sampling and inspection shall be in accordance with MIL-STD-105 for special inspection level S-4. The acceptable quality level (AQL) shall be 1.0.

Vibration: Test condition III of Method 2005 of MIL-STD-1344 shall apply.

Shock: Test condition A of Method 2004 of MIL-STD-1344 shall apply.

Keys: When required, are installed by user. See MIL-C-55302/124 for further details and installation instructions.

Mating plug: Shall conform to MIL-C-55302/122.

Group A testing:

High temperature contact resistance: Sample connectors from each lot shall be subjected to a contact resistance test at 10 milliamps and 120 ±5°C. The contact dc resistance shall be 10 milliohms maximum per mated pair contacts.

Test contacts - user option: When required by the user purchase order, a quantity of 4 contacts per connector or 30 contacts per shipment, whichever is less, with terminal wires attached shall be supplied separately for plating and crimp inspection by the buyer. These contacts shall be from the same plating and crimp lots as those installed in the connectors delivered.

QPL testing and periodic retesting:

X-ray: Representative sample connectors shall be X-rayed by the wet film process to produce 1 to 1 contact images. Two different lateral images shall be taken at ±18.5° incident angles so as to view both rows of contacts simultaneously in each image. The developed film shall be inspected at 10 power minimum magnification for proper pin terminal wire insertion depth.

High temperature contact resistance: Representative sample connectors shall be tested as in group A, high temperature contact resistance.

Contact inspection: Representative sample contacts with terminal wires crimped shall be tested for plating thickness, plating porosity, crimp impression penetration and crimp pull strength.

Part number: M55302/123-01.

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodian:
Air Force - 17

Review activities:
Air Force - 11, 85, 99

User activity:
Air Force - 19

Agent:
DLA - ES

Preparing activity:
Air Force - 17

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